APPLN. FILING DATE: MARCH 11, 2004
FITLE: DOUBLE-SKIN TUBULAR STRUCTURAL
MEMBERS
INVENTOR(S): JIN-GUANG TENGT
ATTORNEY DOCKET NO.: 007198-587 SHEET 1 OF 3

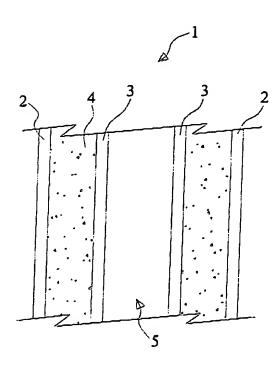


Fig. 1

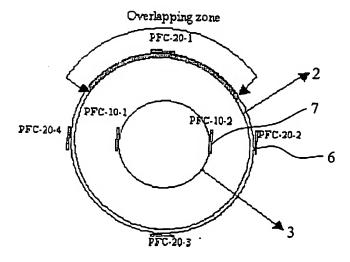


Fig. 2

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Specimen	Number of FRP layers	D/t=76/3.22 D/t=76/3.22 D/t=76/3.22 D/t=76/3.22	
DS11			
	One		
DS12	One		
DS21	Two		
DS22	Two		
DS31	Three	D/t=76/3.22	
DS32			
	Three	D/t=76/3.22	

Fig. 3

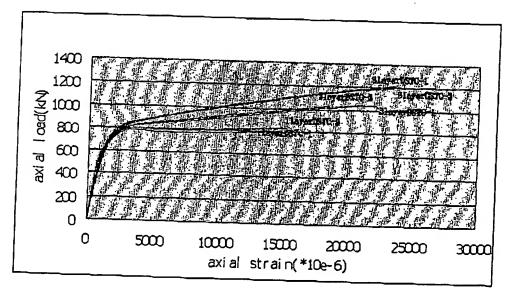


Fig. 4

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Label	Pco (kN)	Ps (kN)	Pc (kN)	Ave Pc (kN)	fcc (MPa)	fcc/fco	s _a (×10 ⁻⁶)	Ave E_(×10-1)	E . E
DS11]		793.75	011.61	2004		14208		
DS12	543.58	282.6	829.27	829.27 811.51	38.86	0.98	14875	14542	5.53
DS21			1044.15	1034.47	55.24	1.39	22000	20204	7.69
DS22			1024.79				18417		
DS31			1214.07	1207.00	50.00		23666		
DS32	32		1201.91	1207.99	68.00	1.71	23416	23541	8.96

fco — unconfined concrete strength;

Pco --- calculated ultimate load of unconfined concrete

Ps --- calculated ultimate load of inner steel tube

Pc --- ultimate load obtained in the test

fcc --- calculated confined concrete strength

 \mathcal{E}_a --- ultimate axial strain of DSTCs

 \mathcal{E}_{cs} --- strain at peak stress of unconfined concrete

Fig. 5